In the Claims:

1-4. (Canceled)

5. (Currently Amended) A multi-step local dry etching apparatus ~~including~~, comprising:

a first vacuum chamber,

a second vacuum chamber,

a small diameter nozzle ~~opened in~~ opening to the first vacuum chamber,

a large diameter nozzle ~~opened~~ opening to the second vacuum chamber and having a diameter larger than that of the small diameter nozzle,

an activated species gas generator for generating activated species gases to be blown out of the each of the nozzles,

~~each of~~ feeding devices disposed in each of the vacuum chambers[[,]] for providing a relative speed along the surface of ~~the SOI~~ a silicon on insulator wafer between the ~~SOI~~ silicon on insulator wafer and ~~each of~~ the nozzles ~~described above~~ to conduct scanning, and

a transportation device for taking ~~out~~ the ~~SOI~~ silicon on insulator wafer after completion of ~~the~~ planarization processing out from the first chamber and transporting the ~~same~~ silicon on insulator wafer into the second chamber, ~~in which the~~

whereby surface unevenness is removed by etching ~~the~~ an active silicon layer of the ~~SOI~~ silicon on insulator wafer in the first vacuum chamber and the active silicon layer is etched to a required layer thickness in the second vacuum chamber.

6. (Currently Amended) A multi-step local dry etching apparatus according to claim 5, wherein each of the first vacuum chamber and the second vacuum chamber is provided as a single unit or plural units relative to the single transportation device.

7. (New) A multi-step local dry etching apparatus according to claim 7, wherein the active species gas is one of SF_6 gas, NF_3 gas, or CF_4 gas.

8. (New) A multi-step local dry etching apparatus according to claim 7, further comprising a microwave generator to generate microwaves to irradiate intermediate portions of the small diameter nozzle and the large diameter nozzle.

9. (New) A multi-step local dry etching apparatus according to claim 7, further comprising a first gas flow monitor to monitor the flow of the active species gas through the small diameter nozzle and a second gas flow monitor to monitor the flow of the active species gas through the large diameter nozzle.

10. (New) A multi-step local dry etching apparatus according to claim 5, wherein the diameter of the small diameter nozzle is determined based on wavelength components of the active silicon layer.

11. (New) A multi-step local dry etching apparatus according to claim 5, wherein a diameter of the small diameter nozzle is adjustable.

12. (New) A multi-step local dry etching apparatus according to claim 5, wherein a diameter of the large diameter nozzle is adjustable.

13. (New) A multi-step local dry etching apparatus according to claim 5, further comprising:

a first wafer table in the first vacuum chamber, to secure the silicon on insulator wafer, wherein the first wafer table is selectively positionable within the first vacuum chamber, and

a second wafer table in the second vacuum chamber, to secure the silicon on insulator wafer, wherein the second wafer table is selectively positionable within the second vacuum chamber.

14. (New) A multi-step local dry etching apparatus according to claim 13, wherein the transportation device grips the silicon on insulator wafer.

15. (New) A multi-step local dry etching apparatus according to claim 13, wherein the transportation device transfers the silicon on insulator wafer from the first wafer table to the second wafer table.

16. (New) A multi-step local dry etching apparatus according to claim 5, further comprising a vacuum pump effectively connected to the first vacuum chamber and the second vacuum chamber to control pressure within the chambers.

17. (New) A multi-step local dry etching apparatus according to claim 16, wherein the vacuum pump is selectively connected to the first vacuum chamber and the second vacuum chamber such that the pressure in each of the chambers may be individually controlled.

18. (New) A multi-step local dry etching apparatus, comprising:

a vacuum chamber having a small diameter nozzle and a large diameter nozzle provided therein;

an activated species gas generator to generate activated species gas to be introduced into the vacuum chamber via the small diameter nozzle or the large diameter nozzle;

a scanner to a detect surface unevenness of an active layer of a silicon on insulator wafer in the vacuum chamber;

a nozzle selector to select either the small diameter nozzle or the large diameter nozzle; and

a nozzle controller to change the position of the selected nozzle relative to the silicon on insulator wafer;

whereby when the silicon on insulator wafer is positioned in the vacuum chamber;

the scanner detects the unevenness of the active layer;

the nozzle selector then selects the small diameter nozzle; and

the activated species gas is blown through the small diameter nozzle as the nozzle controller changes the position of the small diameter nozzle relative to the silicon on insulator wafer, such that the active layer is etched and the unevenness of the active layer is substantially eliminated;

when the unevenness of the active layer is substantially eliminated, the nozzle selector selects the large diameter nozzle and the activated species gas is blown through the large diameter nozzle as the nozzle controller changes the position of the large diameter nozzle relative to the silicon on insulator wafer, such that the active layer is etched to a desired layer thickness.

19. (New) A multi-step local dry etching apparatus, comprising:

a vacuum chamber having;

a nozzle having an adjustable diameter;

an activated species gas generator to generate activated species gas to be introduced into the vacuum chamber via the small diameter nozzle or the large diameter nozzle;

a scanner to a detect surface unevenness of an active layer of a silicon on insulator wafer in the vacuum chamber;

a nozzle adjuster to adjust the diameter of the nozzle; and

a nozzle controller to change the position of the nozzle relative to the silicon on insulator wafer;

whereby when the silicon on insulator wafer is positioned in the vacuum chamber;

the scanner detects the unevenness of the active layer;

the nozzle adjuster then adjusts the diameter of the nozzle; and

the activated species gas is blown through the nozzle as the nozzle controller changes the position of the s nozzle relative to the silicon on insulator wafer, such that the active layer is etched and the unevenness of the active layer is substantially eliminated;

when the unevenness of the active layer is substantially eliminated, the nozzle adjuster increases the diameter of the nozzle and the activated species gas is blown through the nozzle as the nozzle controller changes the position of the nozzle relative to the silicon on insulator wafer, such that the active layer is etched to a desired layer thickness.

20. (New) The multi-step local dry etching apparatus of claim 19, wherein the diameter of the nozzle is adjusted according to wavelength components of the active layer.